FIGURE 2.

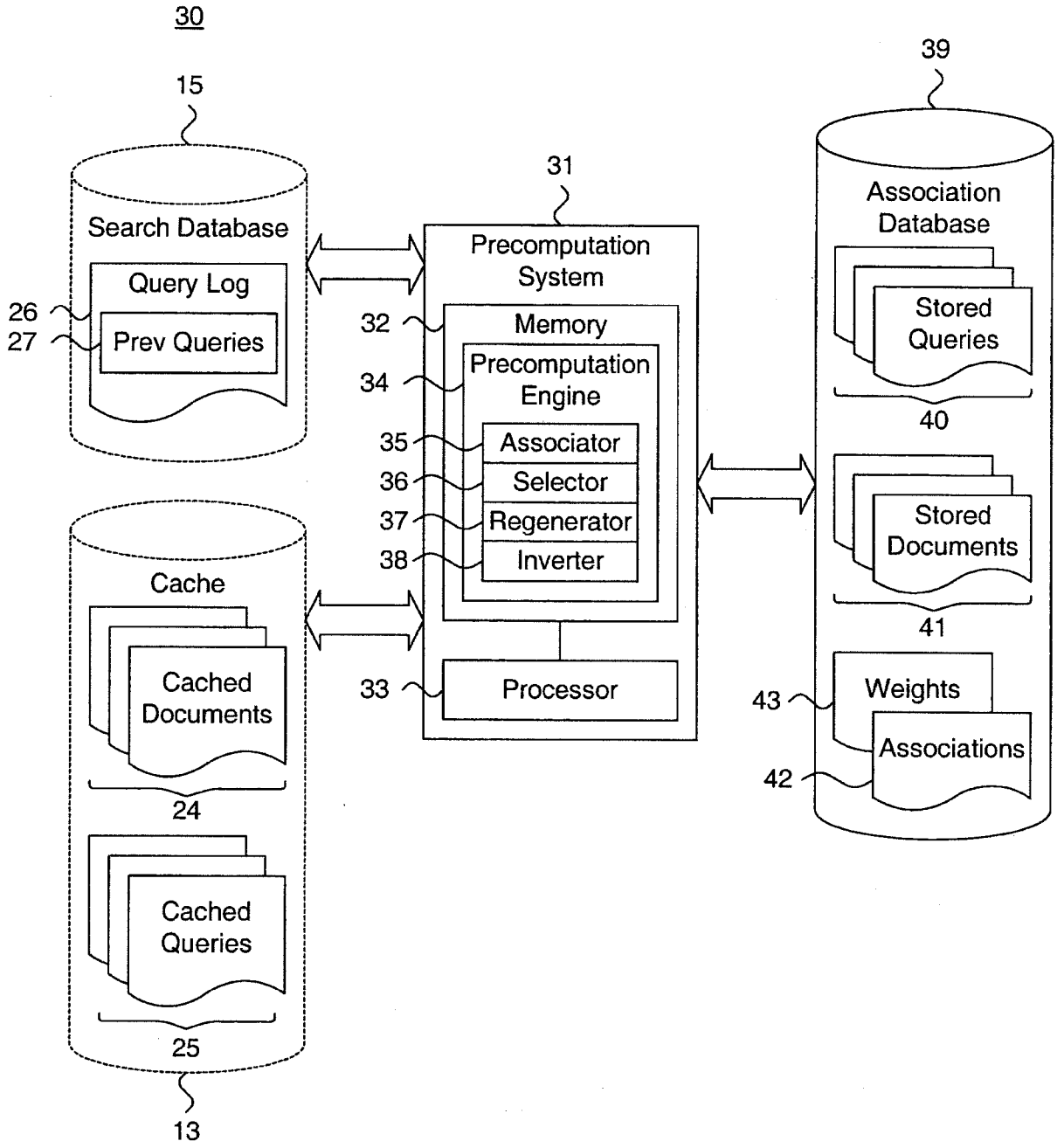

30
15
Search Database
Query Log
26
27
Prev Queries
Cache
Cached Documents
24
Cached Queries
25
13
31
Precomputation System
32
Memory
34
Precomputation Engine
35
Associator
36
Selector
37
Regenerator
38
Inverter
33
Processor
39
Association Database
Stored Queries
40
Stored Documents
41
43
Weights
Associations
42

FIGURE 4.

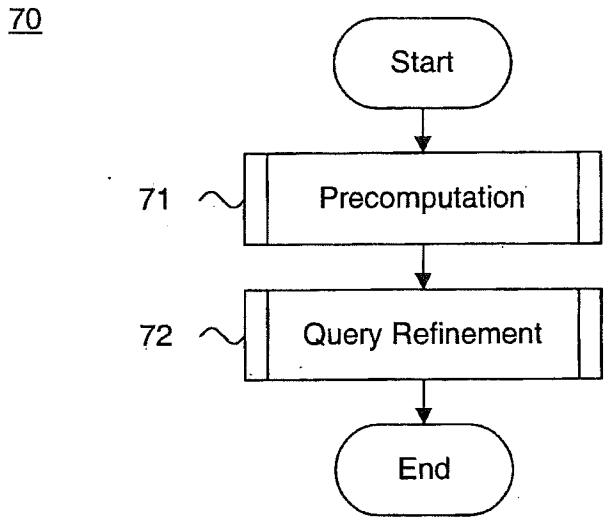


FIGURE 5.

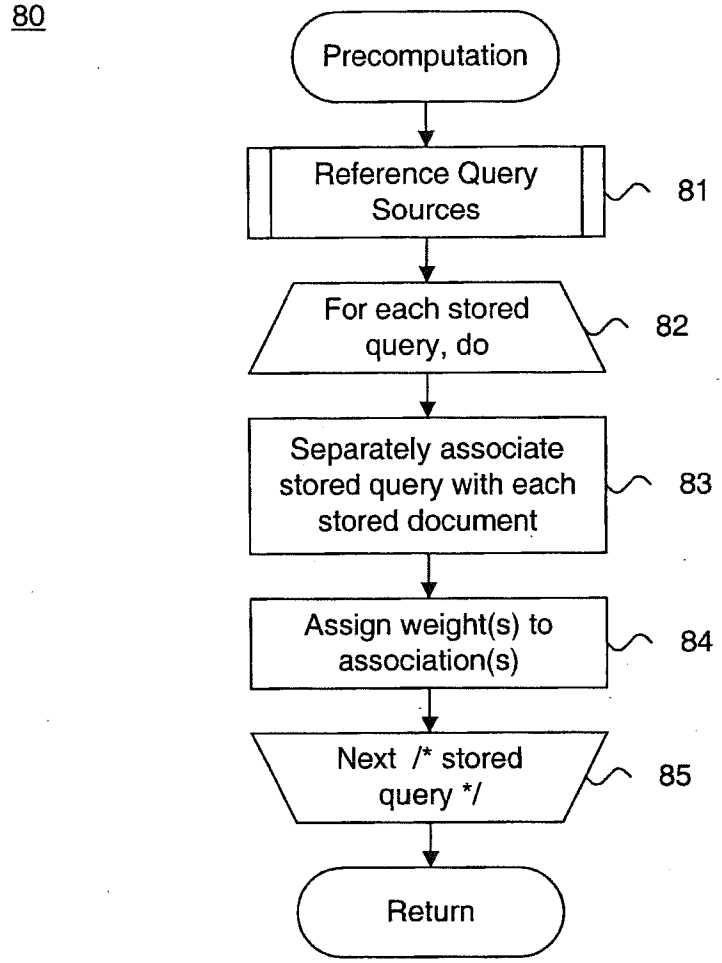


FIGURE 6.

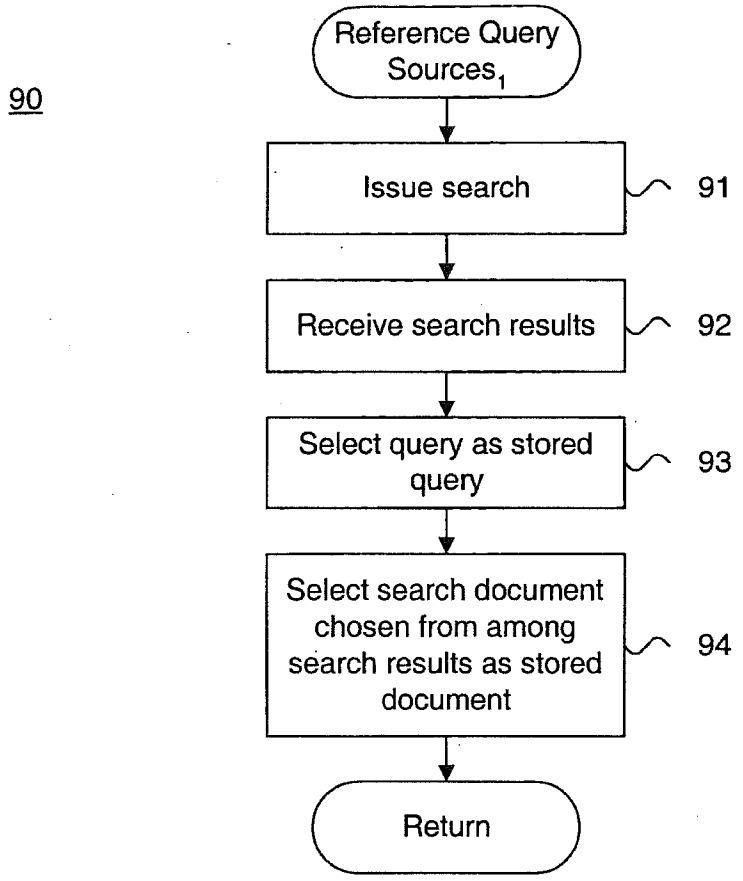


FIGURE 7.

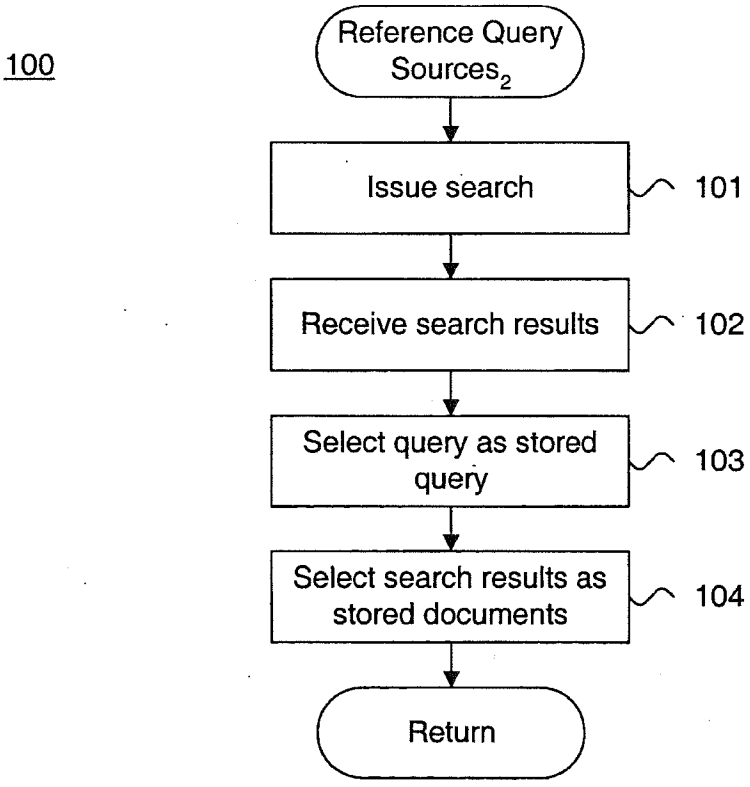


FIGURE 8.

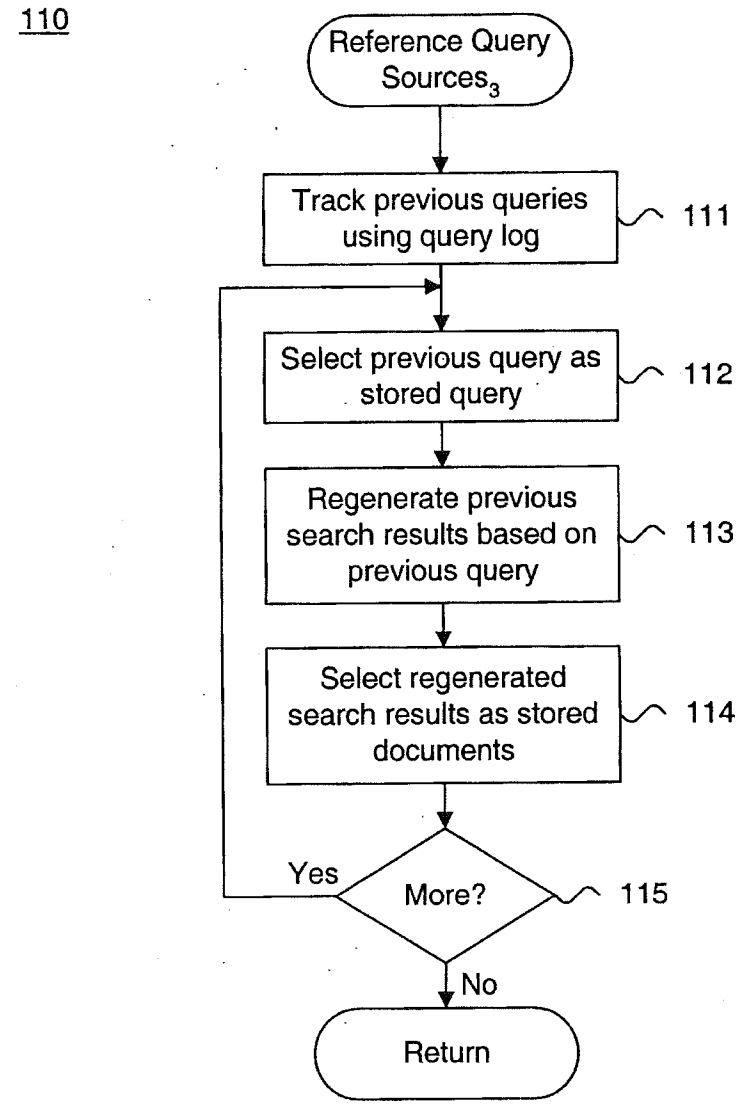

110
Reference Query Sources3
Track previous queries using query log
111
Select previous query as stored query
112
Regenerate previous search results based on previous query
113
Select regenerated search results as stored documents
114
Yes
More?
115
No
Return

FIGURE 9.

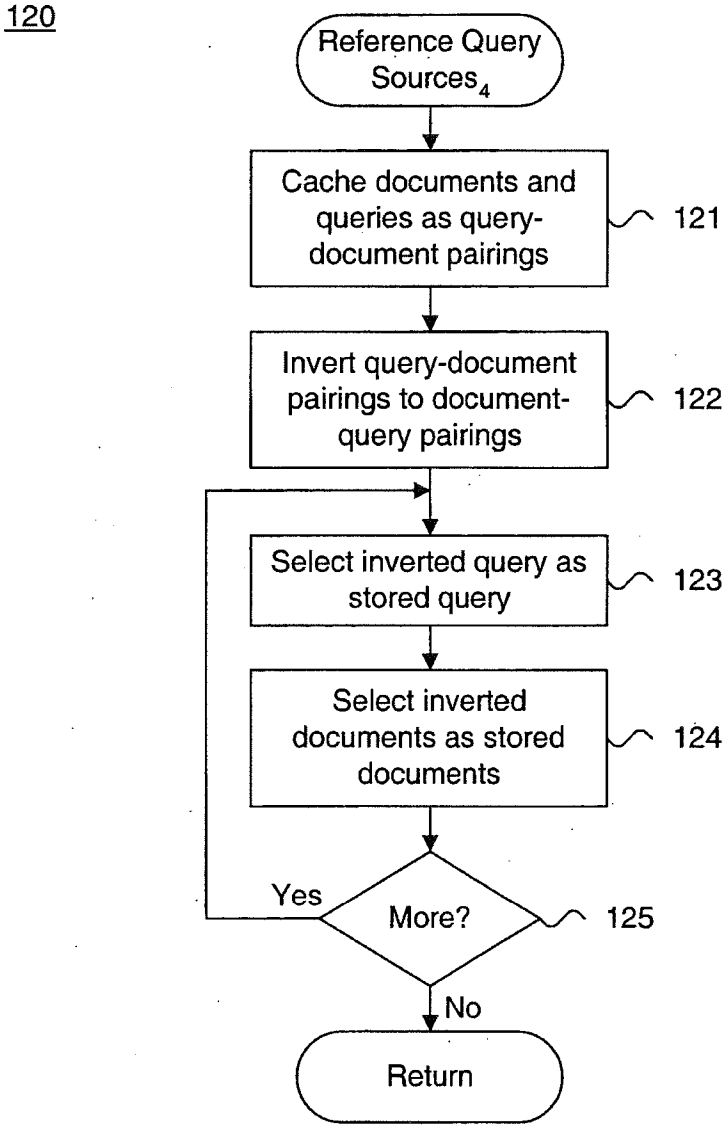
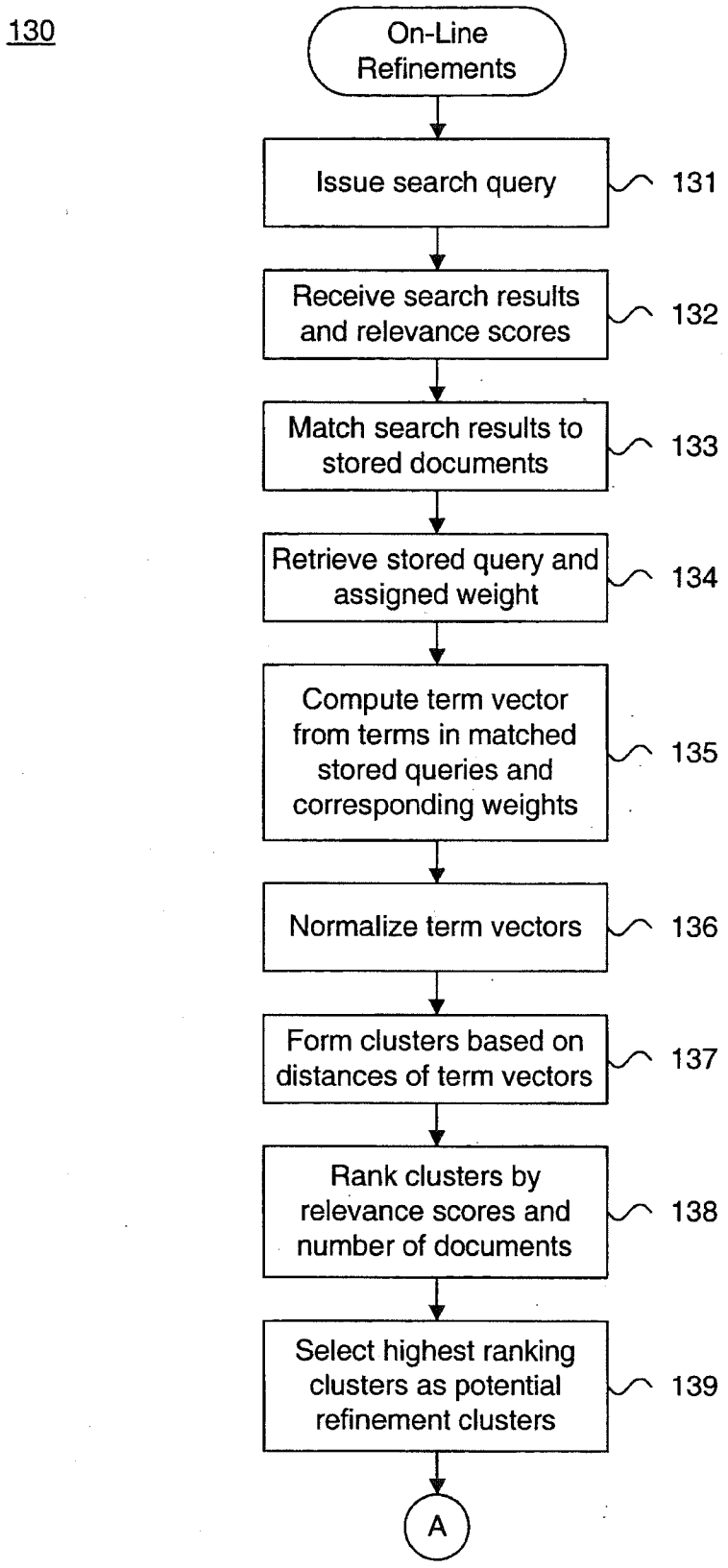

120
Reference Query Sources4
Cache documents and queries as query-document pairings
121
Invert query-document pairings to document-query pairings
122
Select inverted query as stored query
123
Select inverted documents as stored documents
124
Yes
More?
125
No
Return

FIGURE 10.


130
On-Line Refinements
Issue search query
131
Receive search results and relevance scores
132
Match search results to stored documents
133
Retrieve stored query and assigned weight
134
Compute term vector from terms in matched stored queries and corresponding weights
135
Normalize term vectors
136
Form clusters based on distances of term vectors
137
Rank clusters by relevance scores and number of documents
138
Select highest ranking clusters as potential refinement clusters
139
A

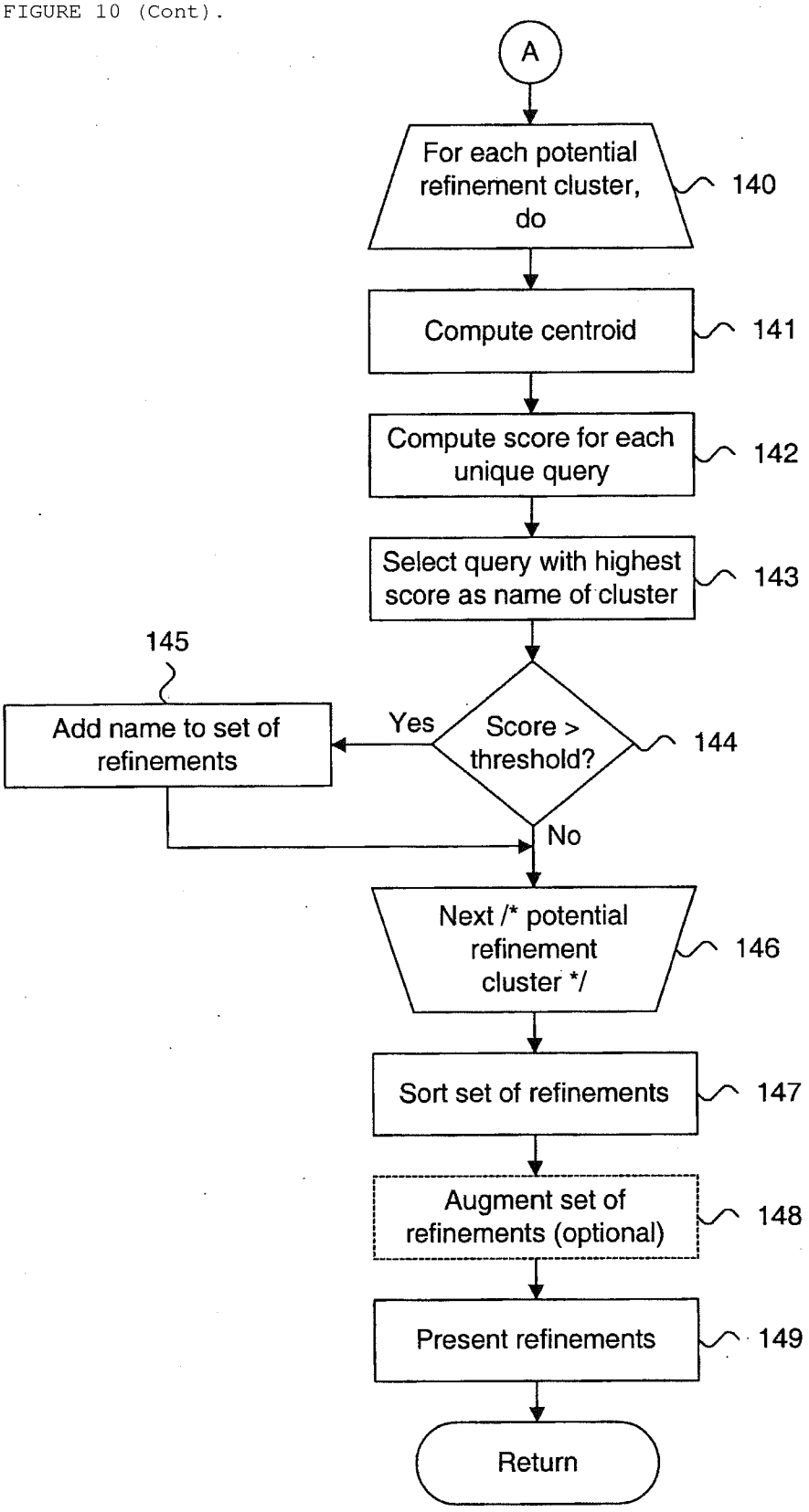



FIGURE 10 (Cont).